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Patent Lawyer

*Exhibit A 1/2*

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Ms. Virginia Manoharan  
Examiner  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450

August 26, 2005

Re: U.S. Patent Application Number 09/745,896  
Filed: December 21, 2000  
For: METHOD FOR PURIFICATION OF ACRYLIC ACID  
Applicant: Nippon Shokubai Co., Ltd.

Dear Ms. Manoharan:

Thank you for your call of Tuesday, August 23, 2005.

First, it is my understanding that you have requested, for scanning, certain documents including a European Search Report and a PTO-1449 form. I hope you will find what you need in the following documents which are being faxed with this letter:

- 1) Information Disclosure Statement dated February 17, 2003 (five pages);
- 2) EPO Communication and Search Report (three pages total);
- 3) unsigned PTO-1449 form (one page); and
- 4) Fax from the USPTO to the undersigned dated January 24, 2004 and consisting of Fax Cover Sheet and two signed PTO-1449 forms (three pages total).

Second, it is my understanding that you would like to know the basis for claims 16 and 17.

Claim 16 requires:  $3 \leq (\text{furfural concentration by weight})/(\text{acrolein concentration by weight}) \leq 100$ . Basis for such is found at:

- 1) page 6, lines 1-19 where the concentration ratio of furfural to acrolein being 100 or below is taught.
- 2) in Example 1 where the concentration ratio of furfural to acrolein is 3. Please see Table 1 on page 23 of the specification.
- 3) in Example 3 where the concentration ratio of furfural to acrolein is 25. Please see Table 1 on page 23 of the specification.
- 4) in Example 4 where the concentration ratio of furfural to acrolein is 75. Please see Table 1 on page 23 of the specification.

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Claim 17 requires:  $3 \leq (\text{furfural concentration by weight})/(\text{acrolein concentration by weight}) \leq 30$ . Basis for such is found at:

- 1) page 6, lines 6-19 where the concentration ratio of furfural to acrolein being between 2 and 30 (including the value 2 and 30) is taught.
- 2) in Example 1 where the concentration ratio of furfural to acrolein is 3. Please see Table 1 on page 23 of the specification.
- 3) in Example 3 where the concentration ratio of furfural to acrolein is 25. Please see Table 1 on page 23 of the specification.

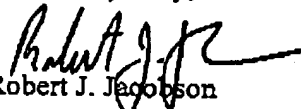
Third, it is my understanding that you would like to know the literal basis for claim 1. There is no paragraph in the specification having claim 1 in its present form. However, there is substantive basis for the literal form. As to step "a)" please see the above noted basis as to claim 16. As to step "b)," please see original claim 1 and original claim 7. As to step "c)," please see page 9, lines 17-23. As to step "d)," please see original claim 1. As to the use of "then" in claim 1, please see the specification as a whole, including the drawings.

To provide a literal basis in the specification, you may by Examiner's amendment add the following paragraph to the specification on page 26, between lines 16 and 17.

A present method for purification of acrylic acid includes the steps of a) providing a crude acrylic acid having a concentration ratio of furfural to acrolein by weight that is adjusted so as to satisfy the following equation:  $3 \leq (\text{furfural concentration by weight})/(\text{acrolein concentration by weight}) \leq 100$ ; then b) charging the crude acrylic acid with an aldehyde treatment chemical, with the aldehyde treatment chemical comprising a hydrazine compound; then c) reacting the hydrazine compound with aldehydes of the crude acrylic acid such that, after said step of reacting and prior to a step of distilling the crude acrylic acid, a concentration of said hydrazine compound in said crude acrylic acid is not more than 100 ppm by weight; and then d) distilling the crude acrylic acid containing said furfural and acrolein as impurities.

If there are remaining issues, please do not hesitate to call.

Yours very truly,

  
Robert J. Jacobson